

In the Claims

Please amend the claims as follows:

1. (Original) A surface glycoprotein comprising the following features: (a) it is GPI-anchored on the cell surface; (b) it can be removed from the cell membrane by treatment with PI-PLC; and (c) its GPI-anchor is characterized by a non-acetylated inositol ring and diacyl glycerol as lipid tail of the anchor.

2. (Original) The surface glycoprotein of claim 1 which is the surface glycoprotein ACA characterized by the following additional features: (d) it has an isoelectric point of pH 5.5; (e) it is present on progenitor cells, granulocytes, monocytes, B-cells (but not T-cells), melanocytes, and other cells; and (f) it is preferentially expressed during cell division and in tumor cells; or a salt, functional derivative or active fraction thereof.

3. (Original) The surface glycoprotein ACA of claim 2, obtainable from human blood by (a) isolating and lysing cells; (b) isolating, disrupting and pelleting the hemoglobin free membrane of said cells; (c) repeated salting out of the resuspended membranes with ammonium sulfate (70%; 40% saturation); (d) subjecting the proteins precipitated in step (c) to preparative SDS-PAGE under reducing conditions; and (e) isolating the gel band of the protein.

4. (Currently amended) The surface glycoprotein ACA of claim ~~2 or~~ 3 having a molecular weight of about 65 or 68 kD when analyzed by SDS PAGE under reducing conditions.

5. (Currently amended) The surface glycoprotein ACA of claim 2 ~~any one of claims 2 to 4~~ which contains at least one of the following amino acid sequences: (a) D-L-V-P-L-E-D-K-V-T-I-L-G-M-T-A ; (b) K-L-A-L-S-A-D-D-P-G-F-H-N-F-S-H-Q-R-Q-T; (C) D-Q-Q-T-T-S-H-S-S; (d) V-L-E-I-M-L-P ; (e) F-Q-D-E-S-E-A-N-K; (f) M-K-Y-V-N-F-K-F-Y-F; (g) N-L-D-F-M-T-W-G-V-T-K-V-T-Y-I-G-Q-P-T-G-G ; (h) L-L-M-D-N-N-E-A-V-H; (i) F-D-Q-A-W-A-D-T-A-H-T-W; (j) K-L-D-D-I-Q-K-D-M-Y-S-Q-Q-D-T ; or (k) G-V-W-I-M-K-N-Q-I-T.

6. The surface glycoprotein ACA of claim 2 ~~any one of claims 2 to 5~~ which is isolated from blood cells.

7. (Original) A process for the isolation of a surface glycoprotein ACA which comprises:
 - a) isolating and lysing cells from human blood;
 - (b) isolating, disrupting and pelleting the hemoglobin free membrane of said cells;
 - (c) repeated salting out of the resuspended membranes with ammonium sulfate (70% ; 40% saturation);
 - (d) subjecting the proteins precipitated in step (c) to preparative SDS-PAGE under reducing conditions; and
 - (e) isolating the gel band of a 65 or 68 kD protein.
8. (Original) The surface glycoprotein ACA produced by the process of claim 7.
9. (Currently amended) The surface glycoprotein of claim 5 ~~of any one of claims 1 to 6~~ which is a recombinant protein.
10. (Original) The surface glycoprotein of claim 9 which is produced in a mammalian cell.
11. (Currently amended) A nucleic acid molecule comprising a nucleotide sequence encoding the surface glycoprotein ACA or a functional derivative or fragment thereof of claim 2 ~~any one of claims 2 to 7~~, wherein said surface glycoprotein ACA contains at least one of the following amino acid sequences: (a) D-L-V-P-L-E-D-K-V-T-I-L-G-M-T-A; (b) K-L-A-L-S-A-D-D-P-G-F-H-N-F-S-H-Q-R-Q-T; (c) D-Q-Q-T-T-S-H-S-S; (d) V-L-E-I-M-L-P; (e) F-Q-D-E-S-E-A-N-K; (f) M-K-Y-V-N-F-K-F-Y-F; (g) N-L-D-F-M-T-W-G-V-T-K-V-T-Y-I-G-Q-P-T-G-G; (h) L-L-M-D-N-N-E-A-V-H; (i) F-D-Q-A-W-A-D-T-A-H-T-W; (j) K-L-D-D-I-Q-K-D-M-Y-S-Q-Q-D-T; or (k) G-V-W-I-M-K-N-Q-I-T.
12. (Original) The nucleic acid molecule of claim 11 wherein the nucleotide sequence is a genomic DNA sequence or a cDNA sequence.
13. (Currently amended) An expression vector comprising the nucleic acid molecule of claim 11 ~~or 12~~.
14. (Original) A host cell transformed with the expression vector of claim 13.
15. (Original) The host cell of claim 14 which is a mammalian host cell.

16. (Currently amended) A process for producing a surface glycoprotein ACA comprising the steps of: (a) culturing a transformed host cell according to claim 14 ~~or 15~~ in a suitable culture medium; and (b) isolating the protein from the cells or the culture medium.

17. (Currently amended) An antibody to the surface glycoprotein according to claim 5 ~~any one of claims 1 to 6 or 8 to 10.~~

18. (Original) The antibody of claim 17 which is a monoclonal antibody.

19. (Currently amended) A method for the diagnosis of a tumor associated with overexpression of ACA or a predisposition for such a tumor which comprises

(a) contacting a target sample with a compound which is capable of specifically binding (i) to the surface glycoprotein ACA according to claim 4 ~~any one of claims 2 to 6 or 8 to 10 or (ii) an mRNA transcribed from the nucleic acid molecule of claim 11 or 12 and determining the level of ACA or ACA-MRNA ; and~~

(b) comparing the level of ACA protein ~~or ACA-MRNA~~ of the sample determined by use of the compound of step (a) with a control sample obtained from a healthy individual, wherein an elevated level of the surface glycoprotein ACA ~~or the corresponding mRNA~~ is indicative for a tumor or a predisposition for such a tumor.

20. (Currently amended) The method of claim 19, wherein the compound is an antibody ~~of claim 17 or 18 or an oligonucleotide which is capable of hybridizing to an mRNA transcribed from the nucleic acid molecule of claim 11 or 12.~~

21. (Original) A pharmaceutical composition containing a compound capable of reducing or eliminating (a) the expression of the nucleic acid sequence encoding the surface glycoprotein ACA and/or (b) the biological activity of ACA.

22. Cancelled

23. The method of claim 19 ~~or 20 or the use according to claim 22~~, wherein the cancer is a melanoma, leukemia, renal cancer, lung cancer, breast cancer, colon cancer, gastric cancer, or any other form of cancer.

24. (Currently amended) A kit containing the antibody of claim 17 ~~or 18 or an oligonucleotide~~
~~which is capable of hybridizing to an mRNA transcribed from the nucleic acid molecule of claim~~
~~11 or 12.~~